

Appl. No.: 09/842,052
Amdt. dated 05/12/2005
Reply to Office action of January 12, 2005

Amendments to the Claims:

Please amend Claim 1 and add new Claims 11-26 as follows:

1. (currently amended) A printer for printing, preferably by thermal transfer, of articles (20) such as cards, in particular of plastic material, of the type comprising, from upstream to downstream, a loader (1) for articles to be printed, adapted to coact with a drive element for emitting articles (20) from the loader (1), a printing device (2) and transfer means (3) to bring sequentially the articles (20) from the outlet (18) of the loader (1) to the printing device (2) and from the printing device (2) toward collection means for the printed articles (20), characterized in that the drive element for bringing articles (20) from the loader (1), constituted by a cylinder (4) in contact with the articles (20) to be treated by means of an opening (5) provided in a wall of the loader (1), is driven by a motor (6) common to the transfer means (3), the contact between the cylinder (4) of the loader (1) and the articles (20) to be treated being sequentially interrupted by an isolating device (7), said isolating device coupled to and actuated by the motor (9) of the printing device (2) actuated by a mechanical connection (8) with the motor (9) of the printing device (2).

2. (original) A printer according to claim 1, characterized in that the loader (1) comprises return means (10), preferably resilient, for the articles (20) to be printed in the direction of the opening (5) of the loader (1) to bring them into bearing contact with the drive cylinder (4) of said loader (1), the isolating device (7) comprising means (11A, 11B) bearing sequentially against said articles (20) to move them against the return means (10) so as to prevent any contact between the articles (20) and the drive cylinder (4) of the loader (1).

3. (previously presented) A printer according to claim 1, characterized in that the isolating device (7) is comprised by a cage (11) partially enveloping the drive cylinder (4) of the loader (1) by means of a discontinuous peripheral wall, this cage (11) being adapted to occupy at least one first angular position, called an active position, in which at least one portion of the wall isolates the articles to be printed from the drive cylinder (4) of the rotor (1) turning freely and at least one second angular position, a so-called inactive position, in which the wall retracts to

Appl. No.: 09/842,052
Amdt. dated 05/12/2005
Reply to Office action of January 12, 2005

permit contact between the article and the cylinder (4), the angular movements of this cage (11) being controlled by a motor (9) common to the printing device (2).

4. (original) A printer according to claim 3, characterized in that the discontinuous peripheral wall of the cage is shaped to delimit at least two bars (11A, 11B), at least one of said bars (11A, 11B) being adapted, in a first active angular position of the cage, to isolate the articles (20) to be printed from the drive cylinder (4) of the loader (1) turning freely within the cage (11) and, in a second inactive angular position of the cage, to retract to permit, in the space between the bars (11A, 11B), a contact of the article (11) with the cylinder (4).

5. (previously presented) A printer according to claim 3, characterized in that the printing device (2) is constituted by at least one shaft (2A) with cams (2C) on which bears a printing head (2B) driven with up and down movement upon angular displacement of said shaft (2A) to move between an upper inactive position and a lower active position, the angular movement of said shaft (2A) being synchronized with the angular displacement of the cage (11) so as to define at least two positions, a so-called loading position in which the printing head (2B) and the cage (11) are in inactive position and a fresh article (20) is driven from the loader, and the other, so-called printing position, in which the printing head (2B) and the cage (11) are in an active position to avoid any driving of a fresh article during the printing process.

6. (original) A printer according to claim 5, characterized in that the cage (11) and the shaft (2A) with cams (2C) occupy at least a third position intermediate between the first and second positions, in which the cage (11) is in active position whilst the printing head (2B) is in inactive position.

7. (previously presented) A printer according to claim 1, characterized in that the isolating device (7) is mounted by snapping into the shaft of the cylinder (4) of the loader (1).

8. (previously presented) A printer according to claim 1, characterized in that the isolating device (7) constituted by a cage (11) partially enveloping the drive cylinder (4) of the loader (1), is connected to the motor (9) of the printing device (2) by a mechanical connection (8)

Appl. No.: 09/842,052
Amdt. dated 05/12/2005
Reply to Office action of January 12, 2005

constituted by a crank type device comprising a rotatable flywheel (13) connected to the motor (9) by a reducing mechanism (14), this flywheel (13) with an eccentric crank pin (15) receiving a rod (16) connected to the cage (11) by a crank arm (17) so as to give rise, during actuation of the motor (9), to an angular movement of the cage (11).

9. (original) A printer according to claim 8, characterized in that at least a portion of the reducing mechanism (14) disposed between the crank and the motor (9) of the printing device (2), is common to the drive mechanism (12) of the printing device (2).

10. (previously presented) A printer according to claim 1, characterized in that the motor (9) of the printing device (2) is reversible in direction of rotation.

11. (new) A printer for printing on media units comprising:
a loader comprising media units to be printed;
a first drive element for removing media units from said loader;
an isolating device adjacent to said first drive element for interrupting contact between said first drive element and the media units in said loader; and
a motor coupled to both said first drive element and said isolating element for actuating said first drive element to remove media units from said loader and further actuates and drives said isolating device to move to a position wherein said isolating device interrupts contact between said first drive element and the media units in said loader to thereby selectively input a media unit in the print path of the printer.

12. (new) A printer according to Claim 11, further comprising a second drive element for transferring the media units along the print path, wherein said motor is connected to all of said first and second drive elements and said isolating element, such that said motor drives each of said elements.

13. (new) A printer according to Claim 11, wherein said first drive element comprises a cylinder rotated by said motor, wherein the surface of the cylinder contacts the media units and transfers the media units from said loader to the print path when rotated.

Appl. No.: 09/842,052
Amdt. dated 05/12/2005
Reply to Office action of January 12, 2005

14. (new) A printer according to Claim 11, wherein said isolating device comprises an enclosure defined by a wall and an opening in said wall, wherein said first drive element is located in said enclosure, wherein in a first position, said wall of said enclosure of said isolating device isolates said first drive element from the media units and in a second position, said opening of said enclosure allows said first drive element to contact the media units in said loader.

15. (new) A printer according to Claim 11, wherein said isolating device is coupled to said motor via a reducing mechanism.

16. (new) A printer according to Claim 11 further comprising return means located in said loader for contacting said media units and urging said media units against said first drive element.

17. (new) A printer according to Claim 11 further comprising:
a flap pivotally connected to said loader; and
a spring for biasing said flap, wherein said flap contacts said media units and urges said media units against said first drive element.

18. (new) A printer according to claim 11 further comprising a print head that is capable of being positioned in either an active position for printing or an inactive position, wherein the positioning of said print head is coordinated with said isolation device, such that when said print head is in an active position, said isolating device moves to a position wherein said isolating device interrupts contact between said first drive element and the media units in said loader and when said print head is in an inactive position, said isolating device moves to a position to allow said first drive element to contact a media unit in said loader and provide the media units to the print path of the printer.

19. (new) A printer according to claim 11 further comprising a crank mechanism connecting said isolating device to said motor of said printer, said crank mechanism comprising:
a reducing mechanism connected to said motor;
a rotatable flywheel connected to said reducing mechanism;

Appl. No.: 09/842,052
Amtd. dated 05/12/2005
Reply to Office action of January 12, 2005

an eccentric crank pin located on said flywheel; and
a rod connected to said crank pin and to said isolation device.

20. (new) A printer for printing on media units comprising:
a loader comprising media units to be printed;
a first drive element for removing media units from said loader; and
an isolating device adjacent to said first drive element for interrupting contact between
said first drive element and the media units in said loader,
wherein said first drive element is located in said isolating device, wherein in a first
position, said isolating device isolates said first drive element from the media units and in a
second position, said isolating device allows said first drive element to contact the media units in
said loader.

21. (new) A printer according to Claim 20, wherein said isolating device comprises an
enclosure defined by a wall and an opening in said wall, wherein said first drive element is
located in said enclosure, wherein in the first position, said wall of said enclosure of said
isolating device isolates said first drive element from the media units and in the second position,
said opening of said enclosure allows said first drive element to contact the media units in said
loader.

22. (new) A printer according to Claim 20 further comprising a motor coupled to both
said first drive element and said isolating element for actuating said first drive element to remove
media units from said loader and further actuates and drives said isolating device to move to a
position wherein said isolating device interrupts contact between said first drive element and the
media units in said loader to thereby selectively input a media unit in the print path of the printer.

23. (new) A printer according to Claim 22, further comprising a second drive element for
transferring the media units along the print path, wherein said motor is connected to all of said
first and second drive elements and said isolating element, such that said motor drives each of
said elements.

Appl. No.: 09/842,052
Amdt. dated 05/12/2005
Reply to Office action of January 12, 2005

24. (new) A printer according to Claim 20, wherein said first drive element comprises a cylinder rotated by said motor, wherein the surface of the cylinder contacts the media units and transfers the media units from said loader to the print path when rotated.

25. (new) A printer for printing on media units comprising:
a loader comprising media units to be printed;
a first drive element for removing media units from said loader;
an isolating device comprises an enclosure defined by a wall and an opening in said wall, wherein said first drive element is located in said enclosure, wherein in the first position, said wall of said enclosure of said isolating device isolates said first drive element from the media units and in the second position, said opening of said enclosure allows said first drive element to contact the media units in said loader; and

a motor coupled to said isolating element for actuating said isolating device to move to a position wherein said isolating device interrupts contact between said first drive element and the media units in said loader to thereby selectively input a media unit in the print path of the printer,

wherein said isolating device is coupled to said motor by a linkage, such that the isolation device moves any time the motor rotates.

26. (new) A printer according to claim 25, wherein the linkage between said motor and said isolation device is a crank mechanism comprising:

a reducing mechanism connected to said motor;
a rotatable flywheel connected to said reducing mechanism;
an eccentric crank pin located on said flywheel; and
a rod connected to said crank pin and to said isolation device.
as the mo